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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,742	04/07/2000	Alex Kuperman	44251	2331

109 7590 09/16/2003

THE DOW CHEMICAL COMPANY
INTELLECTUAL PROPERTY SECTION
P. O. BOX 1967
MIDLAND, MI 48641-1967

EXAMINER

JOHNSON, EDWARD M

ART UNIT	PAPER NUMBER
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1754

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DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/544,742

Applicant(s)

KUPERMAN ET AL.

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 and 37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-7,9,18,22-32 and 37 is/are rejected.
- 7) ☒ Claim(s) 8,10-17 and 19-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 9, 18, 22-27, 29-33, and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwakura et al. US 5,502,020.

Regarding claim 1, Iwakura '020 discloses a process of making an oxidation catalyst comprising gold on a titania wherein the process comprises impregnation of a titania carrier (see column 2, lines 37-39 and column 3, lines 37-41) with gold (see abstract and column 3, lines 12-13), wherein the aqueous impregnation solution may have alcohol or, specifically, ethanol added (see column 6, lines 39-43, Table 2, and Example 21), either of which Applicant defines as a preferred reducing agent (see instant specification, page 8). Intended use recitations are not generally accorded undue patentable weight in process of making claims. However, Iwakura further discloses that the

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oxidation may take place in the presence of air, which contains both hydrogen and oxygen (see column 9, lines 39-41).

Regarding claim 2, Iwakura '020 discloses chloroaurates of potassium and sodium (see paragraph bridging columns 4-5).

Regarding claim 3, Iwakura '020 discloses 10-10,000 ppm (see claim 2).

Regarding claims 4-7, and 9, Iwakura '020 discloses the aqueous impregnation solution may have alcohol or, specifically, ethanol (see column 6, lines 39-43, Table 2, and Example 21), either of which Applicant defines as a preferred reducing agent (see instant specification, page 8).

Regarding claim 18, Iwakura '020 discloses titania carrier (see column 2, lines 37-39 and column 3, lines 37-41).

Regarding claims 22-24, Iwakura '020 discloses 10-4000 ppm rare earth additive metals (see column 3, lines 9-12 and 31-33).

Regarding claim 25-26, Iwakura '020 discloses immersion in aqueous solution and washing by dipping and draining forming a wash coat (see column 6, lines 39-43 and claims 16-18).

Regarding claim 27, Iwakura '020 discloses cesium and alkaline earth metals (abstract), which Applicant specifies and promoter metals (instant specification, paragraph bridging pages 15-16).

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Regarding claim 29, Iwakura '020 discloses room temperature impregnation.

Regarding claims 30-32, Iwakura '020 discloses heating after impregnation in superheated steam at 250 degrees Celsius (see Example 1).

Regarding claim 37, Iwakura '020 that the oxidation may take place in the presence of air, which contains both hydrogen and oxygen (see column 9, lines 39-41) to produce ethylene oxide (abstract).

3. Claims 1, 4-5, 18, 22-23, 26-28, and 20-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Rajaram et al. US 5,480,854.

Regarding claim 1, Rajaram '854 discloses a process for making a catalyst comprising co-precipitation (for lower temperature use) or impregnating (for higher temperature use) metal oxide particles with noble metal precursor, wherein the noble metal may be Au (see abstract and column 2, lines 45-56) and the metal oxide particles may comprise titania (see column 3, lines 14-16), with any reducing agent such as formaldehyde or sodium formate (see column 6, lines 43-44).

Regarding claims 4-5, Rajaram '854 discloses formaldehyde or sodium formate (see column 6, lines 43-44).

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Regarding claims 18, 22-23, and 27 Rajaram '854 discloses titania and ceria (see column 3, lines 14-16).

Regarding claim 26, Rajaram '854 discloses washing (see Examples).

Regarding claim 28, Rajaram '854 discloses incipient wetness impregnation technique (see Example 2).

Regarding claims 30-32, Rajaram '854 discloses calcination after impregnation at 500 degrees Celsius (see Examples).

4. Claims 1-7, 9, 18, 22-23, 25-29, and 31-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Haruta et al. US 4,937,219.

Regarding claim 1, Haruta '219 discloses a process for making a gold catalyst with a titania support (see abstract; column 4, lines 1-4; column 5, lines 53-56) wherein the support is impregnated with chloroauric acid and magnesium citrate (see Example 12), which is a reducing agent.

Regarding claims 2, 4-7, and 9, Haruta '219 discloses chloroauric acid and magnesium citrate solution (see Example 12).

Regarding claim 3, Haruta '219 discloses 9.7 g of chloroauric acid and all the gold deposited (see Example 12).

Regarding claim 18, Haruta '219 discloses titania support (see abstract; column 4, lines 1-4; column 5, lines 53-56).

Regarding claims 22-23 and 27-28 Haruta '219 discloses magnesium nitrate impregnation (see Example 12).

Regarding claim 25, Haruta '219 discloses aqueous solution (see Example 12).

Regarding claim 26, Haruta '219 discloses washing with water (see Example 12).

Regarding claim 29, Haruta '219 discloses 0-80 degrees Celsius (see column 5, lines 60-63).

Regarding claims 31-32, Haruta '219 discloses calcination at 80-800 degrees Celsius (see column 5, lines 32-35 and column 6, lines 30-35).

Allowable Subject Matter

5. Claims 8, 10-17, and 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: It would not have been obvious to one of ordinary skill in the art at the time the invention was made to use a reducing agent containing titanium in the process of the instant claims 10, 19, and 21; the loading percentage of the instant claim 20; nor the molar ratio in the process of the instant claim 8.

Response to Arguments

7. Applicant's arguments filed 8/6/03 have been fully considered but they are not persuasive.

It is argued that the clear gist of Iwakura involves employing alcohol as a *solvent*... impregnation solution. This is not persuasive because Applicant appears to admit that alcohol is disclosed in the prior art and also that alcohol is in fact a reducing agent. Since Applicant does not argue that the disclosed alcohol is not in fact a reducing agent, suggesting only that it is not labeled as such in the prior art, the claim is met.

It is argued that the Office Action refers to Example 21 and Table 2... *titania, but not gold*. This is not persuasive because gold is disclosed elsewhere in the reference (see above) and alcohol is a reducing agent, neither of which Applicant appears to refute.

It is argued that in point of fact, Iwakura is a forest of detailed components... an active hydro-oxidation catalyst. This is not persuasive for the reasons above and also because Applicant's claims could also be characterized as a "forest" encompassing many possible manners in which to practice the claimed invention.

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It is argued that claim 1 also requires Applicants' prepared catalyst... in the presence of hydrogen ("hydro-oxidation process"). This is not persuasive because Applicant does not claim any particular amount of hydrogen greater than that present in air. Claims must be given their broadest reasonable interpretation. In *re Morris*, 127 F.3d 1048, 1054-55 (Fed. Cir. 1997). Therefore, the claims are broadly interpreted as including any amount of hydrogen from very miniscule to very high. It is noted that the features upon which applicant relies (i.e., more than "0.5 parts per million hydrogen" or "as a *material element*") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that (The bold arrow... to the oxidation process.). This is not persuasive because the claim is anticipated, since Applicant appears to admit that an oxidation catalyst is disclosed, and recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use,

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then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

It is argued that the Examiner argues that Applicants' limitation... to the claims. This is not persuasive for reasons already of record and -even if- patentable weight were given to the recitation, Iwakura discloses oxidation of ethylene (see abstract).

It is argued that regarding claims 4-7 and 9... amine complex. This is not persuasive for reasons already of record. Applicant does not appear to allege that alcohol is not, in fact, a reducing agent as claimed. Rather, Applicant merely alleges that alcohol is not labeled as reducing agent in the prior art, which is insufficient to overcome the rejection.

It is argued that in contrast, Applicants' claims... co-precipitation of such. This is not persuasive for reasons already of record. Both impregnation and co-precipitation are disclosed (see rejection above and Rajaram '854). Since both methods are disclosed, a claim to either reads upon the disclosure of the prior art.

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It is argued that for comparative purposes... impregnation. This is not persuasive because Applicant appears to admit that impregnation is disclosed. Rajaram also discloses any reducing agent such as formaldehyde or sodium formate (see column 6, lines 43-44).

It is argued that it is further noted that... (NO_x). This is not persuasive because Applicant appears to admit that the prior art discloses oxidation and, in any case, recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

It is argued that Haruta discloses a variety of *precipitation* methods... and nickel. This is not persuasive because Example 12 does not teach precipitation of the carrier. Rather, the carrier is "immersed in 1 liter of aqueous solution". Since Example 12 discloses the claimed impregnation, the claim is anticipated.

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It is argued that regarding claim 9...as a solvent. This is not persuasive for reasons already of record. Applicant does not appear to alleged that the disclosed magnesium citrate is not a reducing agent or solvent, arguing only that it is labeled as one or the other.

It is argued that regarding claims 22-23... hereinabove. This is not persuasive for the reasons above.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M.


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Johnson whose telephone number is 703-305-0216. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

EMJ
September 12, 2003


STEVEN BOS
PRIMARY EXAMINER
GROUP 1100